

Remarks

Claims 1-15 were pending.

Claims 13 and 15 are withdrawn due to Examiner's restriction.

Claims 1 and 4-6, 9 and 10 are amended.

Claims 2 and 8 are original.

Claims 3, 7, 12 and 14 are as previously presented.

Claims 16 and 17 are new.

Claim 1 is amended for clarity by inserting the phrase "two symmetrical compounds (1a) and 1(c) and one asymmetrical compound 1(b)" into line 1, to define R₁ and R₂ separately and to remove "an amino acid or an amino acid amide residue from which a hydrogen has been removed from the amino group" from the definition of R₁. Support is found in the original claim.

Claims 4-6 are amended to remove reference to R₁ since as a result of the amendments to claim 1, R₁ no longer represents an amino acid or an amino acid amide residue. Support is found in the original claims.

Claim 9 is amended for clarity by deleting the word "by" and adding the phrase "of claim 1 which process comprises" to line 1, by numbering and detailing separately the components reacted with cyanuric chloride, specifying the substituents allowed on "substituted aniline" corresponding to R₃ of claim 1 and by specifically naming the values for R₁ and R₂ corresponding to the values found in claim. Support is found in original claims 1 and 9.

Claim 10 is amended to be an independent claim and to incorporate the limitations of R₁, R₂, R₃ and M as defined in amended claim 1. Support is found in original claims 1 and 10.

Support for new claims 16 and 17 is found in the specification on page 4 lines 11-13.

No new matter is added.

Restriction

Applicants are requested to select a single invention from the following Groups to which the claims are to be restricted.

Group I – Claims 1-12 and 14 drawn to compounds of formula 1(b), compositions of compounds of formulae 1(a), 1(b) and 1(c) and methods for using the compositions,

Group II – Claims 13 and 15 drawn to a paper and textile fabric comprising the Group I composition.

Applicants confirm the election, with traverse, of claims 1-12, and 14 of Group I.

Applicants respectfully disagree with the Examiner's finding that there are no technical features linking the claim of groups I and II. The technical feature which is the foundation of all the instant claims is the fluorescent whitening agent composition comprising a mixture of two symmetrical compounds (1a) and 1(c) and one asymmetrical compound 1(b). Group II represents the end product of the methods 11, 12 and 14. The improvement over the art claimed by Group II lies in the properties that these substrates possess as a result of the incorporation of the novel composition of claim 1. Applicants respectfully suggest that if the composition of claim 1 is shown to be novel and non-obvious that said composition would constitute a special technical feature common to all claims. Applicants further respectfully suggest that if the composition of claim 1 and the methods using them are found to be novel, the resulting article, e.g., paper or textile, should necessarily be novel

The Examiner also states that because the compounds provide various benefits when used under various circumstance that no common utility is present. Applicants respectfully note that many compounds inherently have properties that provide more than a single benefit in actual use. For example, a pigment which provides color to a substrate by absorbing light will also prevent that light from contacting and impacting any material on the other side of the pigmented substrate due to the same inherent ability to absorb light. In the instant case, the brightening activity of the inventive composition is due to its ability to absorb light and re-emit that energy as light of a different wavelength. Thus, the ability to screen light and to operate as a fluorescent whitening agent are related to the same inherent properties of the composition, that is to efficiently absorb light energy and convert it into more useful or less harmful energy.

Applicants therefore kindly request that upon finding the claims of group 1 allowable, that the remaining claims 13and 15 be rejoined.

Claim Rejections

Claims 1-12 and 14 are rejected under 35 USC 112 second paragraph as being indefinite for the following reasons:

- In claim 1 it is unclear whether the groups R_1 and R_2 can be selected separately, that is, whether these groups can be different in formula 1(a) and 1(c);
- Claim 9 is indefinite for not listing the R_3 substituents of the aniline derivatives and the process is considered vague as originally presented. The Examiner also feels that the process would yield compounds other than those of the composition of claim 1;
- Claim 10 should be rewritten as an independent claim.

Claim 1 is amended to specifically state that the compounds of formula 1(a) and 1(c) are symmetrical, the compound of formula 1(c) is asymmetrical and that R_1 and R_2 are different.

Claim 9 is amended to specifically define the variables R1-3. The process of the amended claim also makes clear that a series of standard, well known reaction conditions are used. Additional steps including salt formation and purification are also allowed. A synthetic protocol comprising the processes of claim 9 are shown in the examples to produce the inventive composition. Removal of unwanted byproducts and the formation of different salts by additional steps are not excluded as long as the steps listed are present.

Claim 10 is rewritten as an independent claim.

In light of the above amendments and discussion, Applicants respectfully aver that the rejections under 35 USC 112 second paragraph are addressed and overcome and kindly ask the examiner to withdraw them.

Claim 10 is rejected under 35 USC 103(a) as obvious over Rohringer WO 98/42685, which discloses an unsymmetrical structure similar to formula I(b) of the instant application.

Applicants respectfully traverse these rejections.

WO 98/42685 discloses 4,4'-triazinylamino stilbene-2,2'-disulphonic acid derivatives wherein the triazine rings are substituted by aniline residue and by amino acid residues. Although asymmetric derivatives containing two different amino acid residues fall generically within the scope of claim 1 of the cited art, no such products are exemplified. However, in light of the amendments to claim 10 of the instant application above, wherein R₁ is not an amino acid residue, no overlap at all exists between the compounds of instant claim 10 and WO 98/42685 since the cited art would require both R₁ and R₂ of the instant invention be amino acid residues.

In light of the above amendments and discussion, Applicants respectfully aver that these rejections of claim 10 under 35 USC 103(a) are addressed and overcome and kindly ask the examiner to withdraw them and find claim 10 allowable.

Claims 1-9, 11, 12 and 14 are rejected under 35 USC 103(a) as obvious over Rohringer WO 98/42685, Gold US Pat 3,532,692, Hausermann US Pat 3,272,805 and Thompson WO 96/00220. WO 98/42685 generically discloses unsymmetrical brighteners and the other references disclose symmetrical brighteners. In the Examiner's view it would be obvious to combine unsymmetrical brighteners of WO 98/42685 with symmetrical brighteners of the other references to arrive at the instant invention.

Applicants respectfully traverse these rejections.

As in the discussion above, the amendments to claim 1 place the unsymmetrical compounds of the instant composition outside even the generic disclosure of WO 98/42685. Furthermore, this document contains no suggestion of combining such products with different symmetrical derivatives in the form of mixtures.

As the unsymmetrical compounds of formula I(b) of the instant claim 1 is not disclosed in WO 98/42685, combination of WO 98/42685 with other disclosures of symmetrical compounds does not

meet the limitations of the instant claims 1-9, 11, 12 and 14 and the present rejection under 103(a) is obviated.

Applicants therefore kindly ask that the examiner to withdraw these rejections under 35 USC 103(a) and find claims 1-9, 11, 12 and 14 allowable.

Applicants also respectfully note that US Patent 3,272,805 discloses 4,4'-triazinylamino stilbene-2,2'-disulphonic acid derivatives wherein the triazine rings are substituted by aniline residues and by alkoxy alkylamine substituents. These latter substituents do not fall within the scope of the instant claims and the document provides no suggestion of employing such compounds in the form of mixtures.

Similarly, WO 96/00220 discloses novel 4,4'-triazinylamino stilbene-2,2'-disulphonic acid derivatives wherein the triazine rings are essentially substituted by an alkylamine residue containing an electron withdrawing group such as -CN or SO₃M, which groups again do not fall within the scope of the instant claims and the document provides no suggestion of employing such compounds in the form of mixtures.

US 3,532,692 discloses a process for the preparation of already known symmetrical 4,4'-triazinylamino stilbene-2,2'-disulphonic acid derivatives but provides no suggestion of employing such compounds in the form of mixtures. Applicants also point to the data of Table 2 on page 21 of the instant application which clearly demonstrates advantages of the mixtures of the instant invention over, for example, Compound 1 of Table 1 of US 3,532,692.

As neither the compounds of formula I(b) of the instant invention nor the mixtures comprising compounds of formulae I(a), I(b) and I(c) are neither disclosed nor suggested, Applicants again respectfully request that all rejections under 103(a) be withdrawn and kindly ask that the Examiner find claims 1-12 and 14 and new claims 16 and 17allowable.

Applicants further respectfully request that upon finding said claims allowable, the Examiner rejoin and allow withdrawn claims 13 and 15.

Applicants submit that the present application is in condition for allowance. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,



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